



MAIN GAS TURBINES. Name and Type No.

No. of sets of turbines ..... Open or closed cycle ..... BHP per set ..... at ..... RPM of output shaft .....  
 How is drive transmitted to propeller shaft? .....  
 ARRANGEMENT OF TURBINES. HP drives ..... at ..... RPM HP gas inlet temperature ..... pressure .....  
 (A small diagram should be attached showing gas cycle.) IP drives ..... at ..... RPM IP gas inlet temperature ..... pressure .....  
 LP drives ..... at ..... RPM LP gas inlet temperature ..... pressure .....  
 No. of air compressors per set ..... Centrifugal or axial flow type? ..... Material of turbine blades .....  
 compressor blades ..... No. of air coolers per set ..... No. of heat exchangers per set ..... How are turbines started? .....  
 How is reversing effected? ..... Are the turbines operated in conjunction with free piston gas generators? .....  
 Total No. of free piston gas generators ..... Diameter of working pistons ..... Diameter of compressor pistons ..... No. of double stroke .....  
 minute at full power ..... Gas delivery pressure ..... Gas delivery temperature ..... Have the turbines and attached equipment been tested .....  
 in the shop? ..... How long at full power? .....

ELECTRIC PROPULSION (Reciprocating engines or gas turbines. Electrical particulars to be reported on Form 4d.)

No. of generators ..... KW per generator ..... at ..... RPM AC or DC? ..... Position .....  
 No. of propulsion motors ..... SHP per motor ..... at ..... RPM Position .....  
 How is power obtained for excitation of generators? ..... Motors? .....

REDUCTION GEARING (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of gearing.)

Is gearing of single or double helical type? ..... If single, position of gear thrust bearing ..... Is gearing of epicyclic type? .....  
 PCD of pinions: First reduction ..... Second reduction ..... PCD of wheels: First reduction ..... Main .....  
 Material of pinions ..... Tensile strength ..... Material of wheel rims ..... Tensile strength .....  
 Are gear teeth surface hardened? ..... How are teeth finished? ..... Diameter of pinion journals .....  
 journals ..... Are the wheels of welded construction? ..... Is gearcase of welded construction? ..... Has the wheel/gearcase been heat treated on cooling .....  
 of welding? ..... Where is the propeller thrust bearing located? ..... Are gear bearings of ball or roller type? .....

CLUTCHES, FLEXIBLE COUPLINGS, ETC. If a clutch or other flexible connection is fitted between engine/turbine and gearing or between engine and line shafting gear

description and, for clutches, state how operated .....  
 Can the main engine be used for purposes other than propulsion when declutched? ..... If so, what? .....

STRAIGHT SHAFTING. Diameter of thrustshaft ..... Material ..... Minimum approved tensile strength .....

Shaft separate or integral with crank or wheel shaft? ..... Diameter of intermediate shaft ..... Material .....  
 Minimum approved tensile strength ..... Diameter of screwshaft cone at large end ..... Is screwshaft fitted with a continuous liner? .....

Diameter of tube shaft. (If these are separate shafts) ..... Is tube shaft fitted with a continuous liner in way of stern tube ..... Thickness of screw/tube shaft .....  
 bearings ..... Thickness between bearings ..... Material of screw/tube shaft ..... Minimum approved tensile strength .....

Is an approved oil gland fitted? ..... If so, state type ..... Length of bearing next to and supporting propeller .....  
 Material of bearing ..... In multiple screw vessels is the liner between stern tube and A bracket continuous? ..... If not, is the exposed length of shafting between

PROPELLER. Diameter of propeller ..... Pitch ..... Built up or solid ..... Total developed surface .....

No. of blades ..... Blade thickness at top of root fillet ..... Blade material ..... Moment of inertia of dry propeller .....  
 If propeller is of special design, state type ..... Is propeller of reversible pitch type? ..... If so, is it of approved design? .....

State method of control ..... Material of spare propeller ..... Moment of inertia .....

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine ..... Can they be declutched? .....

No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) .....  
 Lower Platform (s.s.) (Cert. No. 58/1520); One Diesel driven 10 cu.m/H. Eng. R. Lower Platform

No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) .....  
 Cert. No. (VNA. No. C. 00549); One 200 Litre Eng. R. (s.s) Cert. No. (VNA. No. C. 00512)

How are receivers first charged? ..... Maximum working pressure of starting air system ..... Are the safety devices .....  
 accordance with the Rules? ..... Has the starting of the main engines been tested and found satisfactory? .....

COOLERS. No. of main engine fresh water coolers ..... No. of main engine lubricating oil coolers .....

OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure .....

MAIN ENGINE DRIVEN PUMPS (No. and Purpose) .....

Service for which each pump is connected to be marked thus X

INDEPENDENT PUMPS Name below essential pumps, state position and how driven. Give capacity of bilge pumps.	SUCTION							DELIVERY								
	Bilge Main	Bilge Direct	Ballast Main	Oil Fuel	Fresh Water Cool- ing	Sea	Feed Tanks	Lub. Oil	Boiler Feed	Salt Water Cool- ing	Fresh Water Cool- ing	Oil Fuel Tanks	Fire Main	Lub. Oil	Piston Cool- ing	✓ B
275 cu.m/h S.W. cooling 1. driven E.R. (s.s) mid.		X				X				X						
175 cu.m/h F.W. cooling P. driven E.R. (s.s) mid.					X	X				X						
500 cu.m/h lub. oil pumps driven E.R. (s.s) aft.							X							X		
500 cu.m/h fuel oil transfer pump driven ER (p.s) mid				X							X					
1500 cu.m/h ballast pump driven ER (p.s) forwd.	X	X	X	X		X				X						X
400 cu.m/h bilge pump driven ER (p.s) forwd.	X	X				X							X			X
300 cu.m/h fire exting. P. driven ER (p.s) mid.						X							X			
15 t/h F.W. cooling pump driven ER. (s.s) mid.					X	X				X						
35 t/h S.W. cooling pump driven ER. (s.s) mid						X				X						
secondary feed pumps team driven ER (s.s) aft							X			X						
primary feed pumps team driven Boiler flat.							X			X						
100 t/h bilge pump steam driven Pump Room forwd.	X															X

SIZE SUCTIONS. No. and size in each hold, deep tank or pump room .....  
 Pump Room aft. 1x2 1/2" Pump Room fwd. 3x4" ✓  
 and size connected to main bilge line in main engine room 1x3" ✓ 3x3" port; 1x3" stb. ✓ In tunnel -  
 in engine room ✓ Size and position of direct bilge suction in machinery spaces St. One 4" ✓  
 and One 7" ✓ Size and position of emergency bilge suction in machinery spaces One P.S. 6" dia ✓  
 bilge or ballast system fitted with means for separating oily water on the overboard discharge side? ..... Do the piping arrangements comply with the Rules including  
 requirements for ships carrying petroleum in bulk, cargo oil or classed for navigation in ice? (strike out words not applicable). Yes ✓

STEAM & OIL ENGINE AUXILIARIES

Position of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
43-39 stb.-ER	Diesel 620 MTBH30	B & W	CPN 16743. (Rot) ✓	220 KW Alternator ✓
36-32 stb.-ER	"	"	"	"
43-39 port-ER	"	"	"	"
39-33 port-ER	Steam	Bellis & Morcom	BHM.C.33285 (Cert) ✓	100 KW Alternator ✓

Electric current used for essential services at sea? Yes ✓ If so, state the minimum No. and capacity of generators required in order that the ship may operate

One - 220 KW 200 KVA ✓ Is an electric generator driven by Main Engine? No ✓

STEAM INSTALLATION. No. of donkey boilers burning oil fuel 2 ✓ W.P. Second 12.5 Type Watertube Indirect Evaporation

Boiler Flat. Aft. Eng. Room Middle Platform Level ✓

superheater fitted? No ✓ Are these boilers also heated by exhaust gas? No ✓ No. of donkey boilers heated by exhaust gas only? One ✓ W.P. 12.5 Kg/sq.cm

Water tube boiler ✓ Position Casing above boiler plat. ✓ Can the exhaust heated boilers deliver steam directly to

steam range or do they operate only as economisers in conjunction with oil fired boilers? Direct to range ✓ Port and No. of report on donkey

Ham 6597 and RKA 747 ✓ Is steam essential for operation of the ship at sea? No ✓ Are any steam pipes over 3 ins. bore? Yes ✓ If so, what is their

material? copper ✓ For oil fired boilers is the arrangement of pipes, valves, controls, etc., in accordance with the Rules? Yes ✓ No. of oil burning pressure

Two ✓ No. of steam condensers One ✓ No. of Evaporators One ✓

GEARING GEAR. (State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars) "Donkins" make 4 Ram. Elect. Hydraulic

gear with two Electric Motors and two Rotary Pumps. ✓

Are the Rule Requirements for fire extinguishing arrangements been complied with? Yes ✓ Brief description of arrangements Steam Smothering system in Cargo Tanks

Pump Rooms, Eng. Rm. and Blr. room. /Hydrants and Hoses/ 1x136 litres; 1x45 litres; 12x9 litres Froth; 1x45 litres CO2.

the spare gear required by the Rules been supplied? Yes ✓ Has all the machinery been tried under full working conditions and found satisfactory? Yes ✓ Date and duration of full-

sea trials of main engines 18th March 59 - 6 hours ✓ Does this machinery installation contain any features of a novel or experimental nature? (Give particulars)

No ✓

foregoing description of the main engine and installation is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)



**GENERAL REMARKS**

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

The machinery of this ship has been constructed and installed under Special Survey in accordance with the Rules of the Society, Approved Plans and Secretary's letters.

The materials and workmanship are good.

On completion, the main engine was examined under working conditions on the test bench and on completion of installation, the main and auxiliary machinery, steering gear windlass were examined under full working conditions at sea with satisfactory results, and is in my opinion eligible for classification with the Society with the following notation

+LMC. 4.59: TS-CL: 2WTDB. Primary 50 Kgs/sq.cm. Secondary 12.5 Kgs/sq.cm.: 1WTDB  
 710lb (oil fired)  
 180lb

*A. Butler*  
 A. Butler  
 Engineer Surveyor to Lloyd's Register of Shipping

**PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)**

RODS Piston:- RKA 1971, 1972, 1974, 1975, 1852, 2398, 2399 with dates and initials.

Connecting:- RKA 2358, 2641, 2642, 2643, 2644, 2859, 2860 with initials and dates

CRANKSHAFT OR ROTORSHAFT CPN 3553, 3554 with dates and initials

FLYWHEEL SHAFT

THRUSTSHAFT CPN 3555 with dates and initials

GEARING

INTERMEDIATE SHAFTS SPT. 1042M and 1058M with dates and initials

SCREW AND TUBE SHAFTS SPT. 999 and 1056M (Spare) with dates and initials

PROPELLERS made by Lips Propeller Works, Drunen, Holland, Prop. No. 11545 (L.R. 7895) AVH-1 shell

OTHER IMPORTANT ITEMS Cyl. Liners SPT. 2205, 2206, 2224, 2263, 2264, 2265, and 2428, 2429.

Cyl. Heads RKA 1159, 1160, 1162, 1166, 1200, 1201, 1202, 1203.

Cyl. Jackets RKA 1087, 1100, 1139, 1284, 1285, 1286, 1303

Is the installation a duplicate of a previous case? No If so, state name of vessel

Date of approval of plans for crankshaft Straight shafting 14.11.57 Gearing Clutch

Separate oil fuel tanks 5.12.58 Pumping arrangements 14.8.58 Oil fuel arrangements 15.8.58

Cargo oil pumping arrangements 17.6.57 Air receivers Donkey boilers

Dates of examination of principal parts:-

Fitting of stern tube 19.5.58 Fitting of propeller 23.5.58 Completion of sea connections 23.5.58 Alignment of crankshaft in main bearings 15.3.58

Engine checks & bolts 3.2.59 Alignment of gearing Alignment of straight shafting 4.11.58 Testing of pumping arrangements 17.5.59

Oil fuel lines 5.2.59 Donkey boiler supports 30.9.58 Steering machinery 18.3.59 Windlass 18.3.59

Date of Committee FRIDAY 10 JUL 1959 Special Survey Fee £ 518-8-0 + 290/- = 808-8-0

Decision See Rpt. 1.

Expenses 93.000.-  
 Late Attend 14.112.-

